

LOUIS ET AL.
"Power Amplifier Control Based On
On Load Impedance And Methods"
Atty. Docket No. CS22853RL

Appl. No. 10/691,024
Confirm No. 5009
Examiner H. Choe
Art Unit 2817

1. (Original) A method of operating an amplifier, the method comprising:

monitoring a characteristic of the amplifier during an operating interval of the amplifier;

providing an open-loop control signal to the amplifier during a subsequent operating interval of the amplifier,

the open-loop control signal based on the characteristic monitored during a previous operating interval.

2. (Original) The method of Claim 1,

comparing the characteristic monitored with a reference characteristic;

selecting the open-loop control signal provided to the amplifier during the subsequent operating interval based on the comparison of the characteristic monitored with the reference characteristic.

3. (Original) The method of Claim 1,

monitoring the characteristic of the amplifier includes monitoring the characteristic over multiple operating intervals of the amplifier, and averaging the characteristic monitored,

generating the open-loop control signal based on the average of the characteristic monitored over the multiple operating intervals of the amplifier.

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4. (Original) The method of Claim 1, monitoring the characteristic of the amplifier includes detecting at least one of an output power of the amplifier, a supply current of the amplifier, and a supply voltage of the amplifier.

5. (Original) The method of Claim 1, monitoring the characteristic of the amplifier includes detecting a change in at least one of a supply voltage or supply current when the amplifier is turned ON.

6. (Original) The method of Claim 1,
the open-loop control signal based on the characteristic monitored during the previous operating interval is obtained by correcting a prior open-loop control signal based on the characteristic monitored relative to a reference frame.

7. (Original) The method of Claim 6,
comparing the characteristic monitored with a reference,
correcting the prior open-loop control signal if the comparison of the characteristic monitored with the reference exceeds a first threshold,
not correcting the prior open-loop control signal if the comparison of the characteristic monitored with the reference does not exceed the first threshold.

8. (Original) The method of Claim 7,
resetting the prior open-loop control signal to a default value if the comparison of the characteristic monitored with the reference is less than zero.

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9. (Original) The method of Claim 1, providing the open-loop control signal to the amplifier includes providing to the amplifier a control signal that is not modified by feedback during an operating interval of the amplifier.

10. (Original) The method of Claim 1,
monitoring the characteristic of the amplifier during the operating interval of the amplifier when the amplifier operates on a signal having a particular frequency;

the open-loop control signal is obtained by updating a prior open-loop control signal based on the characteristic monitored;

storing the updated open-loop control signal in a look-up table in association with the particular frequency,

applying the stored open-loop control signal to the amplifier when the amplifier operates on a signal having the particular frequency at a future time.

11. (Original) A method of operating an amplifier, the method comprising:

activating the amplifier by providing an open-loop control signal to the amplifier;

monitoring a characteristic of the amplifier when the amplifier is active;

generating an updated open-loop control signal based on the characteristic monitored.

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12. (Original) The method of Claim 11, subsequently activating the amplifier by providing the updated open-loop control signal to the amplifier.

13. (Original) The method of Claim 11, storing the updated control signal in a look-up table.

14. (Original) The method of Claim 11,
monitoring the characteristic of the amplifier during multiple active intervals of the amplifier;
generating an updated open-loop control signal based on an average of the characteristic monitored during the multiple active intervals of the amplifier.

15. (Original) The method of Claim 11,
monitoring the characteristic of the amplifier operating at different frequencies during corresponding active intervals of the amplifier;
generating updated open-loop control signals based on the characteristic monitored at the different frequencies, each of the updated open-loop control signals corresponding to a particular one of the different frequencies;
storing each of the updated open-loop control signals in a look-up table in association with its corresponding frequency.

16. (Original) The method of Claim 11, monitoring the characteristic of the amplifier includes detecting at least one of an output

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power of the amplifier, a supply current of the amplifier, and a supply voltage of the amplifier.

17. (Original) The method of Claim 11,
generating the updated open-loop control signal based on the characteristic monitored includes correcting a prior open-loop control signal based on the characteristic monitored relative to a reference frame.

18. (Original) The method of Claim 11,
comparing the characteristic monitored with a reference,
generating the updated open-loop control signal includes
correcting a prior open-loop control signal based on the comparison of the characteristic monitored with the reference.

19. (Original) The method of Claim 18,
correcting the prior open-loop control signal if the comparison of the characteristic monitored with the reference exceeds a first threshold,
not correcting the prior open-loop control signal if the comparison of the characteristic monitored with the reference does not exceed the first threshold.

20. (Original) The method of Claim 19,
resetting the prior open-loop control signal to a default value if the comparison of the characteristic monitored with the reference is less than zero.

21. (Original) A method in an amplifier, the method comprising:

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operating the amplifier during active intervals by providing open-loop control signals to the amplifier;

monitoring a change in load impedance at an output of the amplifier;

providing an open-loop control signal to the amplifier based on the change in load impedance monitored during at least one previous active interval of the amplifier.

22. (Original) The method of Claim 21,

monitoring the change in load impedance by detecting a characteristic of one of a supply current or supply voltage provided to the amplifier,

providing the open-loop control signal to the amplifier based on the characteristic of the supply current or supply voltage monitored.

23. (Original) The method of Claim 21,

obtaining the updated open-loop control signal by correcting a prior open-loop control signal based on a change in load impedance monitored during a previous operating interval of the amplifier.

24. (Original) The method of Claim 23,

comparing a characteristic of the amplifier related to the change in load impedance monitored with a reference,

correcting the prior open-loop control signal if the comparison of the characteristic of the amplifier with the reference exceeds a first threshold,

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not correcting the prior open-loop control signal if the comparison of the characteristic monitored with the reference does not exceed the first threshold.

25. (Original) The method of Claim 24,
resetting the prior open-loop control signal to a default value if the comparison of the characteristic monitored with the reference is less than zero.

26. (Original) The method of Claim 21,
storing the updated open-loop control signal,
providing the open-loop control signal to the amplifier based on the change in load impedance monitored during at least one previous active interval of the amplifier by providing the stored updated open-loop control signal to the amplifier.